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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* JAVIT A. DRAKE, ANDREW G. GILCINSKI,  
GORDON G. GUAY, and LESLIE J. PINNELL

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Appeal 2010-008303  
Application 10/664,822  
Technology Center 1700

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Before BRADLEY R. GARRIS, TERRY J. OWENS, and  
CATHERINE Q. TIMM, *Administrative Patent Judges*.

TIMM, *Administrative Patent Judge*.

DECISION ON APPEAL

I. STATEMENT OF CASE

Appellants appeal under 35 U.S.C. § 134 from Examiner's decision to  
reject claims 11-33 on the following grounds:

- A. Claims 11-23 under 35 U.S.C. § 112, ¶ 1 for lack of enablement;
- B. Claims 11-23 under 35 U.S.C. § 112, ¶ 2 as failing to set forth the  
subject matter which applicants regard as their invention;

C. Claims 24-30, 32, and 33 under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Kaschemekat (US 5,069,793; issued Dec. 3, 1991); and

D. Claim 31 under 35 U.S.C. § 103(a) as unpatentable over Kaschemekat in view of Wohlstadter (US 6,207,369 B1, issued Mar. 27, 2001).

We have jurisdiction under 35 U.S.C. § 6(b).

We REVERSE.

## II. DISCUSSION

Claims 11-23 are directed to a fuel cartridge that supplies a source of fuel to a direct methanol fuel cell. The cartridge includes a housing, a fuel egress port, and a composite membrane. Claims 24-33 are directed to the composite membrane recited in claim 11. It is the structure of the membrane that is at issue in this appeal. Therefore, claim 24, the broadest independent claim, is representative for purposes of this appeal and is reproduced below.

24. A composite membrane comprising:

a porous substrate;

a polymer membrane disposed over a first surface of the porous substrate; and

a coating of a methanol-impermeable material disposed over an opposite surface of the substrate.

### A. REJECTION UNDER 35 U.S.C. § 112, ¶ 2

Examiner states that claims 11-23 are rejected under 35 U.S.C. § 112, ¶ 2 because these claims fail to correspond in scope with that which Applicants regard as their invention (Ans. 3). According to Examiner, in the Summary of Claimed Subject Matter of a prior Appeal Brief filed April 13,

2009, Appellants “stated that figure 2B represents the embodiment that is recited in the above listed claims, and this statement indicates that the invention is different from what is defined in the claim(s) because claim 11 only recites that the composite membrane resides in the housing but does not recite any specific location or orientation within the housing.” (Ans. 3-4). However, in the response to arguments, Examiner shifts the analysis. In this part of the Answer, Examiner explains that the language is indefinite (Ans. 6-8). According to Examiner, the “residing in” language encompasses inoperative embodiments and is amendable to at least two plausible claim constructions (*id.*).

35 U.S.C. 112, ¶ 2 requires that “[t]he specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.” What this means is that is that “applicant must particularly point out and distinctly claim the subject matter sought to be patented.” *In re Borkowski*, 422 F.2d 904, 909 (CCPA 1970).

Appellants make clear that what they seek to be patented is, in fact, what they claim. Appellants understand that “residing in” as recited in the phrase “a composite membrane residing in the housing” does not limit the location and orientation of the membrane within the housing (Br. 13-14). On this point Examiner and Appellants agree (*Compare* Ans. 6-7 with Br. 14).

Examiner has not provided evidence that Appellants intended that the claim be of different scope than its actual scope. The fact that Appellants refer to Figure 2B in a Summary of Claimed Subject Matter section of a

prior brief does not provide evidence that Appellants are claiming something other than what they regard as their invention.

With regard to Examiner's determination that the claims are indefinite because they cover an inoperative embodiment, all the Examiner has shown is that the claim is broad. "Breadth is not indefiniteness." *In re Gardner*, 427 F.2d 786, 788 (CCPA 1970). Nor is it relevant that the claims encompass inoperative embodiments. *In re Skoll*, 523 F.2d 1392, 1395 (CCPA 1975).

With regard to Examiner's determination that the claim is amendable to two or more plausible claim constructions, Examiner does not specify the other plausible construction. The claim is clear: it encompasses a composite membrane "residing in" the housing in any orientation and location. "[I]f the claims read in light of the specification reasonably apprise those skilled in the art of the scope of the invention, § 112 demands no more." *Miles Lab., Inc. v. Shandon, Inc.*, 997 F.2d 870, 875 (Fed. Cir. 1993) (citation omitted).

We agree with Appellants that Examiner erred in rejecting claims 11-23 under 35 U.S.C. § 112, ¶ 2.

## B. ENABLEMENT

Examiner rejects claims 11-23 as lacking enablement under 35 U.S.C. § 112, ¶ 1 on the basis that the location and orientation of the composite membrane within the housing is critical or essential to the practice of the invention, but not included in the claims, citing *In re Mayhew*, 527 F.2d 1229 (CCPA 1976) (Ans. 3). Examiner again points to the Summary of Claimed Subject Matter of the Brief filed April 13, 2009. According to

Examiner, the Summary shows the criticality of the location and orientation of the membrane (*id.*).

With regard to enablement, the burden is on the examiner to “advance acceptable reasoning inconsistent with enablement.” *In re Strahilevitz*, 668 F.2d 1229, 1232 (CCPA 1982). In meeting this burden, the examiner must take into account the knowledge of those of ordinary skill in the art and the unpredictable nature of the art. *In re Bowen*, 492 F.2d 859, 862 (CCPA 1974). The question is whether, once imagined, other embodiments could be made without difficulty and their performance characteristics predicted by resort to known scientific laws or whether unpredictability is such that it would be difficult for the ordinary artisan to extend the teaching to other embodiments. *Id.* Other factors showing undue experimentation may also be relied upon to show lack of enablement. *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988). Only if the examiner advances acceptable reasoning inconsistent with enablement, does the burden shift to appellant “to show that one of ordinary skill in the art could have practiced the claimed invention without undue experimentation.” *Strahilevitz*, 668 F.2d at 1232.

In the case of *In re Mayhew*, the specification led the examiner, the board panel, and the court to believe that a cooling bath and its location were essential to the process being claimed. *Mayhew*, 527 F.2d at 1233. Examiner, in the present case, however, has not explained what in the *Specification* leads Examiner to believe that the location and orientation of the membrane would be essential to the fuel cartridge claimed.

The Specification seems to convey that the Figure 2B embodiment is merely an example (Spec. 6:25-28). The Specification further suggests other configurations and locations for the membrane (Spec. 7:19-22).

Appellants contend that the membrane need not be at a specific location or orientation within the housing (Br. 11), and the Specification provides evidence supporting Appellants' contention.

The evidence as a whole supports Appellants' position. Examiner has not advanced acceptable reasoning supporting a conclusion that those of ordinary skill in the art would lack the skill necessary to determine the ways in which the membrane could be oriented and located within the housing.

#### C. ANTICIPATION BY KASCHEMEKAT

Examiner rejects claims 24-30, 32, and 33 as anticipated by Kaschemekat. To support these rejections, Examiner finds that Kaschemekat teaches a permselective polymer coating that is a "methanol-impermeable material" in accordance with the claims based upon similarities in the materials used to form the coating (Ans. 4-5 and 9-10).

Appellants' "coating of a methanol-impermeable material" is just that, i.e. impermeable to methanol (Spec. 7:9-17). According to the Specification, the coating is impermeable to the methanol vapor, and therefore, the methanol vapor travels along a path between the vaporization membrane 48a and the methanol-impermeable layer 48c (*id.*). Methanol cannot in any form travel through the methanol-impermeable material (*id.*).

Kaschemekat's polymer is selected to be "permselective," i.e., it is selected to be vapor permeable to at least one component of the feed solution (Kaschemekat, col. 4, ll. 36-43; col. 10, ll. 33-64; col. 11, ll. 38-42; *see also* Br. 14-15). The permselective layer is deposited to be very thin so that very high permeate vapor fluxes can be obtained (Kaschemekat, col. 10, ll. 56-65).

In order to anticipate, a reference must identify something falling within the claimed subject matter with sufficient specificity to constitute a description thereof within the purview of § 102. *In re Schaumann*, 572 F.2d 312, 317 (CCPA 1978). While something in the prior art can anticipate inherently, the reference must still identify something necessarily having the characteristic said to be inherent. *See Schering Corp. v. Geneva Pharmas.*, 339 F.3d 1373, 1379 (Fed. Cir. 2003) (a limitation is inherent if it is the “natural result flowing from” the explicit disclosure of the prior art); *Mehl/Biophile Intl Corp. v. Milgram*, 192 F.3d 1362, 1365 (Fed. Cir. 1999) (quoting *In re Oelrich*, 666 F.2d 578, 581 (CCPA 1981)) (“The mere fact that a certain thing may result from a given set of circumstances is not sufficient.”).

The fact that Kaschemekat mentions some materials that have the same chemical composition as materials suggested by Appellants’ Specification does not, in the present case, establish that the permselective layer of Kaschemekat, which is very thin and vapor permeable, is a “coating of a methanol-impermeable material.” The Examiner has not provided a reasonable basis grounded in fact and/or technical reasoning sufficient to establish that Kaschemekat “describes,” within the meaning of 35 U.S.C. § 102, a thin permselective layer of material having the methanol-impermeable properties of the claims. Such a reasonable basis must be established before the burden can shift to Appellants. *Ex parte Levy*, 17 USPQ2d 1461, 1464 (BPAI 1990).

#### D. OBVIOUSNESS OVER KASCHEMEKAT

Examiner alternatively rejects claims 24-30, 32, and 33 as obvious over Kaschemekat on the basis that “it would have been obvious to one

having ordinary skill in the art to select the permselective polymer coating based on its specific selectivity since there are a finite number of identified, predictable solutions identified in Kaschemekat and Kaschemekat specifically teaches that the permselective layer coating is chosen based on its specific selectivity.” (Ans. 5.) However, Examiner has failed to provide the necessary factual basis to support the finding that there are, indeed, “a finite number of identified, predictable solutions identified in Kaschemekat” for achieving such a methanol-impermeable layer that would meet the other requirements of Kachemekat’s membrane. Examiner cites to no portion of Kaschemekat providing guidance for selecting a permselective polymer layer that is impermeable to methanol and we find no such guidance.

#### **E. OBVIOUSNESS OVER KASCHEMEKAT AND WOHLSTADTER**

To reject claim 31, Examiner relies upon Kaschemekat in combination with Wohlstadter. This rejection suffers from the same defect discussed above in reference to the rejection for obviousness over Kaschemekat alone. Therefore, for the reasons presented above we cannot sustain this rejection.

#### **III. CONCLUSION**

On the record before us, we do not sustain any of the rejections maintained by Examiner.

IV. DECISION

The decision of Examiner is reversed.

REVERSED

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